

I Claim:

1. A wear assembly for an excavator comprising:

a base component to be fixed to the excavator and including a nose;

a wear component having a wearable surface and a cavity to receive the nose, the wear and base components including aligned holes to form an opening; and

a lock removably received in the opening for releasably holding the wear component to the base component, the lock including:

a body having a peripheral surface defining an outline shape adapted for receipt in the opening; and

a locking member secured to the body for movement limited to rotation about an axis, the locking member being movable between a release position and a locking position, and including a flange that is within the outline shape extended axially when the locking member is in the release position and is at least partially outside of the axial extension of the outline shape when the locking member is in the locking position such that at least part of the flange sets opposite an inner surface of the wear component to prevent removal of the lock from the opening.

2. The wear assembly of claim 1 wherein the body includes bearing surfaces to contact the wear component and the base component to prevent removal of the wear component from the base component.
3. The wear assembly of claim 1 wherein the body includes a rigid part and a resilient part, and the resilient part engages the locking member to releasably retain the locking member in the release and locking positions.
4. The wear assembly of claim 3 wherein the locking member includes a shank having a non-circular cross sectional configuration, the resilient part of the body includes a hole for receiving the shank, the resilient part is in a relaxed state when the locking member is in the release and locking positions, and the resilient part is in a stretched state when the locking member is moving between the release and locking positions.
5. The wear assembly of claim 1 wherein the locking member includes a head engageable by a tool for rotating the locking member between the release and locking positions.
6. The wear assembly of claim 5 wherein the head includes at least one ledge for engagement by a tool for axially pulling the lock from the opening.

7. The wear assembly of claim 1 wherein the body and the locking member each includes a bearing surface, and wherein, in the locking position, the bearing surface of the body engages the wear component and the bearing surface of the locking member engages the base component.

8. The wear assembly of claim 7 wherein the bearing surface of the locking member is spaced from the bearing surface of the body a first distance in the release position and a second distance in the locking position, wherein the second distance is greater than the first distance so that the lock tightens the fit of the wear component on the base component when the locking member is moved to the locking position.

9. The wear assembly of claim 1 wherein the wear component includes a sidewall having an inner face and an outer face defining the thickness of the sidewall, the hole in the wear component is defined in the sidewall by a peripheral edge wall, and the peripheral edge wall has (1) a rear portion with a bearing face that extends the entire distance between the inner and outer faces to contact the lock and thereby retain the wear component on the base component, and (2) a relief portion defined by (i) a stop wall having a thickness that is less than that thickness of the sidewall and (ii) a recess between the stop wall and the inner surface of the sidewall for receiving the flange of the lock when the locking member is moved to the locking position.

10. A wear assembly for an excavating operation comprising:

a base component to be fixed to an excavator and including a nose;

a wear component; and

a lock for releasably holding the wear component to the base component;

the wear component including a wearable surface, a cavity adapted to receive the nose of the base component, at least one sidewall having an inner face and an outer face defining the thickness of the sidewall, and a hole defined by a peripheral edge wall in the sidewall to receive a lock to hold the wear component to the base component, the peripheral edge wall having (1) a rear portion with a bearing face that extends the entire distance between the inner and outer face to contact the lock and thereby retain the wear component on the base component, and (2) a relief portion defined by (i) a stop wall having a thickness that is less than that thickness of the sidewall and (ii) a recess between the stop wall and the inner surface of the sidewall for receiving a movable flange of the lock and thereby retaining the lock.

11. A lock for releasably coupling a wear component to a base component in an excavating operation, the wear and base components including aligned holes to form a lock receiving opening, the lock comprising:

a body having a peripheral surface defining an outline shape adapted for receipt in the lock receiving opening; and

a locking member secured to the body for movement limited to rotation about an axis, the locking member being movable between a release position and a locking position, and including a flange that is within the outline shape extended axially when the locking member is in the release position and is at least partially outside of the axial extension of the outline shape when the locking member is in the locking position such that at least part of the flange sets opposite an inner surface of the wear component to prevent removal of the lock from the lock receiving opening.

12. The lock of claim 11 wherein the body includes bearing surfaces to contact the wear component and the base component to prevent removal of the wear component from the base component.

13. The lock of claim 12 wherein the flange sets axially outside of the bearing surfaces.

14. The lock of claim 11 wherein the body includes a rigid part and a resilient part, and the resilient part engages the locking member to releasably retain the locking member in the release and locking positions.

15. The lock of claim 14 wherein the locking member includes a shank having a non-circular cross sectional configuration, the resilient part of the body includes a hole for receiving the shank, the resilient part is in a relaxed state when the locking member is in the release and locking positions, and the resilient part is in a stretched state when the locking member is moving between the release and locking positions.

16. The lock of claim 14 wherein the rigid part of the body defines a cavity into which the resilient part is received.

17. The lock of claim 16 wherein the rigid part includes a front surface and a rear surface, and the rear surface has a longer axial extension than the front surface.

18. The lock of claim 11 wherein the locking member includes a head engageable by a tool for rotating the locking member between the release and locking positions.

19. The lock of claim 18 wherein the head includes a pair of opposite ledges for engagement by a tool for axially pulling the lock from the opening in the wear and base components.

20. The lock of claim 11 wherein the body and the locking member each includes a bearing surface, and wherein, in the locking position, the bearing surface of the body engages the wear component and the bearing surface of the locking member engages the base component.

21. The lock of claim 20 wherein the bearing surface of the locking member is spaced from the bearing surface of the body a first distance in the release position and a second distance in the locking position, and wherein the second distance is greater than the first distance so that the lock tightens the fit of the wear component on the base component when the locking member is moved to the locking position.

22. A lock for releasably coupling a wear component to a base component in an excavating operation, the wear and base components including aligned holes to form a lock receiving opening, the lock comprising:

a body including a rigid part, a resilient part, and a peripheral surface defining an outline shape adapted for receipt in the lock receiving opening; and

a locking member secured to the body for rotational movement about an axis between a release position and a locking position, the locking member including a shank along the axis and a flange that is within the outline shape extended axially when the locking member is in the release position and is at least partially

outside of the axial extension of the outline shape when the locking member is in the locking position such that at least part of the flange sets opposite an inner surface of the wear component to prevent removal of the lock from the components;

wherein the resilient part of the body includes a hole for receiving the shank to thereby releasably retain the locking member in the release and locking positions.

23. The lock of claim 22 wherein the shank has a non-circular cross sectional configuration and the hole in the resilient part receives the shank in a relaxed state when the locking member is in the release and locking positions, and in a stretched state when the locking member is moving between the release and locking positions.

24. The lock of claim 22 wherein the body includes bearing surfaces to contact the wear component and the base component to prevent removal of the wear component from the base component.

25. The lock of claim 24 wherein the rigid part of the body defines a cavity into which the resilient part is received.



26. The lock of claim 25 wherein the rigid part has a front surface and a rear surface, and the rear surface has a longer axial extension than the front surface.

27. The lock of claim 22 wherein the locking member includes a head for rotating the locking member between the release and locking positions, and includes a pair of opposite ledges for engagement by a tool for axially pulling the lock from the opening in the wear and base components.

28. The lock of claim 22 wherein the body and the locking member each includes a bearing surface, and wherein, in the locking position, the bearing surface of the body engages the wear component and the bearing surface of the locking member engages the base component.

29. The lock of claim 28 wherein the bearing surface of the locking member is spaced from the bearing surface of the body a first distance in the release position and a second distance in the locking position, and wherein the second distance is greater than the first distance so that the lock tightens the fit of the wear component on the base component when the locking member is moved to the locking position.

30. A lock for releasably coupling a wear component to a base component in an excavating operation, the wear and base components including aligned holes to form a lock receiving opening, the lock comprising:

a body including a peripheral surface defining an outline shape adapted for receipt in the lock receiving opening, and a bearing surface to contact the wear component to prevent removal of the wear component from the base component; and

a locking member secured to the body for rotational movement about an axis, the locking member being movable between a release position and a locking position, and including a flange that is (i) within the outline shape extended axially when the locking member is in the release position, (ii) at least partially outside of the axial extension of the outline shape when the locking member is in the locking position such that at least part of the flange sets opposite an inner surface of the wear component to prevent removal of the lock from the components, and (iii) axially to one side of the bearing surface at all times.

31. The lock of claim 30 wherein the body includes a rigid part and a resilient part, and the resilient part engages the locking member to releasably retain the locking member in the release and locking positions.

32. The lock of claim 31 wherein the locking member includes a shank having a non-circular cross sectional configuration, the resilient part of the body includes a hole for receiving the shank, the resilient part is in a relaxed state when the locking member is in the release and locking positions, and the resilient part is in

a stretched state when the locking member is moving between the release and locking positions.

33. The lock of claim 30 wherein the locking member includes a bearing surface, and wherein, in the locking position, the bearing surface of the body engages the wear component and the bearing surface of the locking member engages the base component.

34. The lock of claim 33 wherein the bearing surface of the locking member is spaced from the bearing surface of the body a first distance in the release position and a second distance in the locking position, wherein the second distance is greater than the first distance so that the lock tightens the fit of the wear component on the base component when the locking member is moved to the locking position.

35. The lock of claim 30 wherein the body further includes another bearing surface that contacts the base component.

36. A lock for releasably coupling a wear component to a base component in an excavating operation, the wear and base components including aligned holes to form a lock receiving opening, the lock comprising:

a body including a peripheral surface defining an outline shape adapted for receipt in the lock receiving opening, and a head for rotating the locking member between the release and locking positions, and including a pair of opposite ledges for engagement by a tool for axially pulling the lock from the lock receiving opening; and

a locking member secured to the body for rotational movement about an axis between a release position and a locking position, and including a flange that is within the outline shape extended axially when the locking member is in the release position and is at least partially outside of the axial extension of the outline shape when the locking member is in the locking position such that at least part of the flange sets opposite an inner surface of the wear component to prevent removal of the lock from the components.

37. The lock of claim 36 wherein the head further includes a retaining wall extending from each ledge to position the tool for pulling the lock from the lock receiving opening, and wherein at least a portion of the retaining wall is unopposed by another surface of the lock for coupling of the tool to the lock.

38. The lock of claim 36 wherein the body includes bearing surfaces to contact the wear component and the base component to prevent removal of the wear component from the base component.

39. The lock of claim 36 wherein the body includes a rigid part and a resilient part, the resilient part engaging the locking member to releasably retain the locking member in the release and locking positions.

40. The lock of claim 36 wherein the body and the locking member each includes a bearing surface, and wherein, in the locking position, the bearing surface of the body engages the wear component and the bearing surface of the locking member engages the base component.

41. The lock of claim 40 wherein the bearing surface of the locking member is spaced from the bearing surface of the body a first distance in the release position and a second distance in the locking position, wherein the second distance is greater than the first distance so that the lock tightens the fit of the wear component on the base component when the locking member is moved to the locking position.

42. A wear component for an excavating operation, the wear component comprising a wearable surface, a cavity adapted to receive the nose of the base component, at least one sidewall having an inner face and an outer face defining the thickness of the sidewall, and a hole defined by a peripheral edge wall in the sidewall to receive a lock to hold the wear component to the base component, the peripheral edge wall having (1) a rear portion with a bearing face that extends the entire distance between the inner and outer face to contact the lock and

thereby retain the wear component on the base component, and (2) a relief portion defined by (i) a stop wall having a thickness that is less than that thickness of the sidewall and (ii) a recess between the stop wall and the inner surface of the sidewall for receiving a movable flange of the lock and thereby retaining the lock.